

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-006089**Date Inspected:** 04-Mar-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 645**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1845**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower Fabrication**Summary of Items Observed:**

CWI Inspector Mr. Huang Wei

On this date CALTRANS OSM Quality Assurance (QA) Inspector Mr. Paul Dawson arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

Procedure Qualification

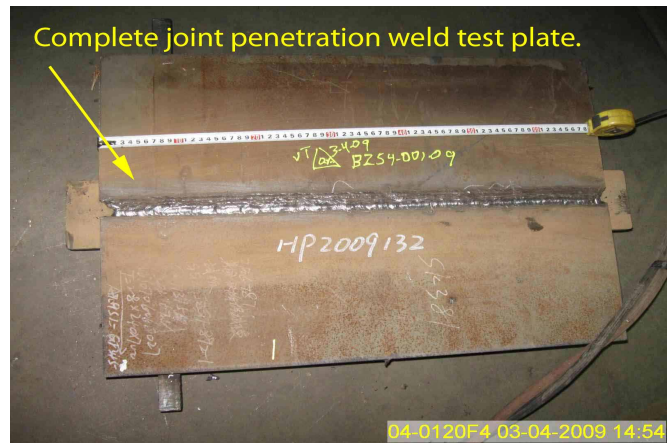
American Bridge/Fluor representative Mr. Craig Knops informed the QA Inspector that ZPMC is going to perform two welding procedure qualification tests for welding of grade 345 steel that is intended to be used for manufacturing of shear link components. Mr. Knops presented the QA Inspector with preliminary ZPMC welding procedure specification PWPS-B-T-2214 which provides the parameters for welding a groove weld in the 4G (overhead) position and welding procedure specification PWPS-B-T-2114 provides the parameters for welding fillet weld in the 4G (overhead) position. Both welding procedure specifications stipulate use of THJ56Fe-1 4.0 diameter E7018-1 shielded metal arc welding electrodes. ZPMC conducted both of these procedure qualification tests in the ZPMC welding lab. The groove weld test plates and the fillet weld test plates appeared to comply with the welding procedure specification and AWS D1.5 welding procedure specification section 5.0. The QA Inspector observed ZPMC welder Mr. Wang Xuebo stencil 066064 had used a torch to preheat both weld test plates prior to commencement of welding. During the groove welding ZPMC CWI Mr. Huang Wei measured Mr. Xuebo to have an average welding current of approximately 159 amps, 23.5 volts and a travel speed of 102.5 mm

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per minute and a heat input of 2.22kJ/mm. During the fillet welding ZPMC CWI Mr. Huang Wei measured Mr. Xuebo to have an average welding current of approximately 165 amps, 24 volts and a travel speed of 104 mm per minute and a heat input of 2.26kJ/mm. Mr. Wei used a laser temperature measuring device to monitor the base material temperature prior to and during the welding of these plates. Following completion of the welding of both plates Mr. Wei informed the QA Inspector that the welds are visually acceptable. The QA Inspector performed random visual inspections and confirmed the welds appear to comply with project specifications.

ZPMC assigned PQR number HP209-132 and the QA Inspector assigned lot number B254-001-009 to document the welding of the groove weld plate. ZPMC assigned PQR number HP209-133 and QA Inspector assigned lot number B254-002-009 for the welding of the fillet weld plate. See the photographs below for additional information.



Summary of Conversations:

See above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Serge Sinevod phone: 134-8257-0045 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Clifford,William	QA Reviewer
